

# North West Zambia Development Trust

## Newsletter on the Zengamina hydro electric scheme 31 Dec. 2006

The North West Zambia Development Trust is constructing a small hydroelectric scheme in the Kalene area of north western Zambia. The project will provide cheap, clean and sustainable power to the local area. It will remove dependence on diesel generators and will supply Kalene Hospital, the local schools, clinics and orphanage. In addition, there will be opportunities for Small and Medium Enterprise (SME) development. Income from power would decrease dependency on expatriate income for the operation of Kalene Hospital and the other institutions at Kalene and the local area. The project will create the basis of a self-sustaining, developing local economy.

The end of 2006 shows progress with the completion of the majority of the civil works and installing of most of the hydro electric equipment. There were several setbacks with supply of materials, sourcing of equipment and the strengthening of the kwacha (which in effect reduced the funds available by 40%).

The following are all complete or close to completion: the weir except for one gate, the entrance works to the canal, the canal (only 50m left of blasting), headpond, penstock, powerhouse including roof, machinery installed, and powerlines to Kalene hospital and school, Sahandu, and Nyakaseya market and Palace.

The majority of purchases have been made except for the substation at the power house and the connections to the houses and villages along the way. When funds become available, these purchases will be made and also the extension of the power line to Sakeji.



**The Draft Tube into the sump structure under the power house**



**The power house structure**



**Connecting the Turbine to the Draft Tube on the floor of the power house**



**Underside of the turbine showing the rotor blades which are driven by the water rushing down the penstock pipe**



The Gearbox lowered into position next to the turbine (behind)



Alignment of the shaft and couplings from the Turbine and Gearbox



The penstock pipe to deliver water to the turbine



Canal near completion – 50 metres to go



The sediment chamber Sluice Gate installed



Headpond with trough to gather debris

The excitement is euphoric in the villages following the arrival of the long awaited gum poles from Zimbabwe, and the powerline construction team from Lusaka- 10 km of line are up now and the remaining 6 km of the first phase will follow within two months. More funds are needed to complete the line up to the final destination of Ikelene town, Sakeji and Hillwood Farm.

It has been a long haul to get to completion in under three years of effort. Teamwork has been the mainstay of the project: from suppliers, clearing agents, contractors, specialists, workers, mission and stakeholder assistance, the authorities and not least – the many supporters and Trusts that have shared with giving generously to an inspiring project.

Even the Zambian government has raised some financial support for this private project through the newly formed Rural Electrification Agency, and we are delighted about being considered for funding representing 1 % of the total project cost.



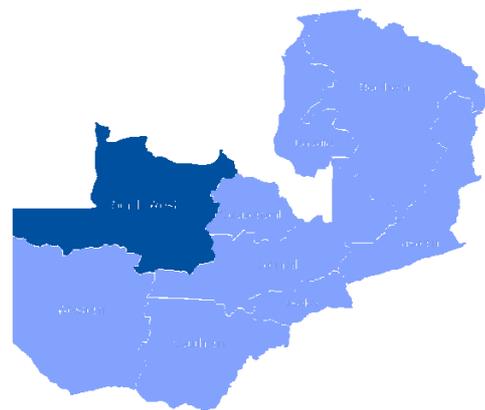
**Completion of the power line erection to Kalene Hospital**



**His Royal Highness Honourable Chief Zengamina Nyakaseya with senior wife who has been a great supporter and advocate**

Several Zambians have also given material and professional support at reduced prices for which we are grateful.

The programme for commissioning indicates that the start up will be in the month of April 2007. Official opening will be in the dry season.



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